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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/756,805

01/13/2004

Takafumi Noda

9319S-000608

1517

27572

7590

07/12/2006

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EXAMINER

MITCHELL, JAMES M

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/756,805	Applicant(s) NODA, TAKAFUMI	
	Examiner James M. Mitchell	Art Unit 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)              |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____.  |

### DETAILED ACTION

This office action is in response to applicant's arguments filed February 15, 2006.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 6 rejected under 35 U.S.C. 102(b) as being anticipated by Yamashita (U.S. 5,554,871):

Kawasaki (Fig. 1, 46) discloses:

(cl. 1, 6) a semiconductor device comprising: a gate insulating film (7) provided on a semiconductor layer (1), a gate electrode (8) provided on the gate insulating film, and a source region and a drain region (4, 5) provided in the semiconductor layer at two sides of the gate electrode, wherein the source and the drain regions comprise first impurity diffusion layers (4a/ 5a, Fig. 1; 104a/ 105a Fig. 46) formed of a specific impurity introduced in the semiconductor layer adjacent two sides of the gate electrode, and second impurity diffusion layers (4b, 5b) provided in the semiconductor layer adjacent the first impurity diffusion layers and opposite from the gate electrode, the second impurity diffusion layers being in contact/abutting with the first impurity diffusion layers (Fig. 1), and wherein the first impurity diffusion layer comprise a diffusion suppression impurity for suppressing diffusion of the specific impurity into the semiconductor layer ("nitrogen"; Col. 19, Lines 50-54);

(cl. 2) wherein the diffusion suppression impurity is located in the semiconductor layer under (e.g. in a region below) the gate electrode (Fig. 46).

Claims 1, 2 and 6 rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki (U.S. 6,198,141)<sup>1</sup>.

Yamazaki (Fig. 1B, 7B, 11A) discloses:

(cl. 1, 6) a semiconductor device comprising: a gate insulating film (104) provided on a semiconductor layer (701), a gate electrode (709) provided on the gate insulating film (104), and a source region and a drain region (1101) provided in the semiconductor layer at two sides of the gate electrode, wherein the source and the drain regions comprise first impurity diffusion layers (e.g. first cross hatch) formed of a specific impurity introduced in the semiconductor layer adjacent two sides of the gate electrode, and second impurity diffusion layers (e.g. 1103, second cross hatch) provided in the semiconductor layer adjacent the first impurity diffusion layers and opposite from the gate electrode, the second impurity diffusion layers being in contact/abutting with the first impurity diffusion layers (Fig. 11A), and wherein the first impurity diffusion layer comprise a diffusion suppression impurity (104) for suppressing diffusion of the specific impurity into the semiconductor layer (Abstract);

(cl. 2) wherein the diffusion suppression impurity is located in the semiconductor layer under (e.g. in a region below) the gate electrode (Fig. 11A).

***Response to Arguments***

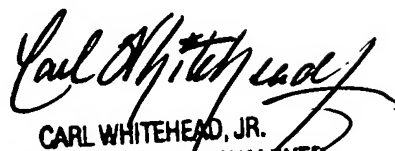
Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Mitchell whose telephone number is (571) 272-1931. The examiner can normally be reached on M-F 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
CARL WHITEHEAD, JR.  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

<sup>1</sup> Likewise, Shinada (U.S. 4,597,824) could be used to anticipate the claimed invention with item 106 being the diffusion suppression impurity.

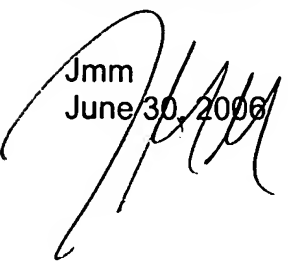
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Jmm

June 30, 2006

A large, stylized handwritten signature in black ink, likely belonging to Jmm, is written over the date.